

Traffic-related fatality rates

Comparisons between countries show opportunity for dramatic reductions in deaths in Canada

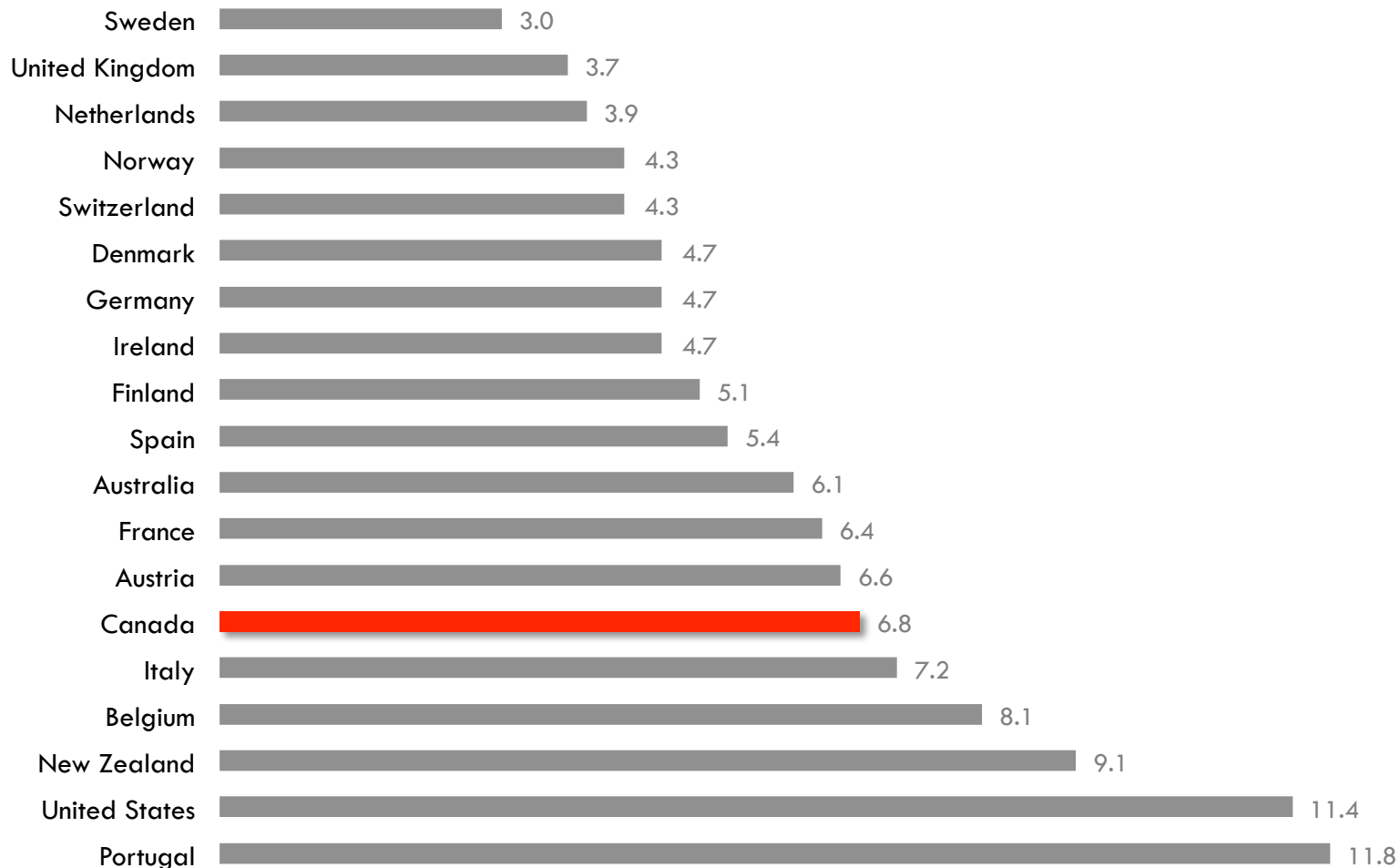


Kay Teschke

School of Population & Public Health
University of British Columbia

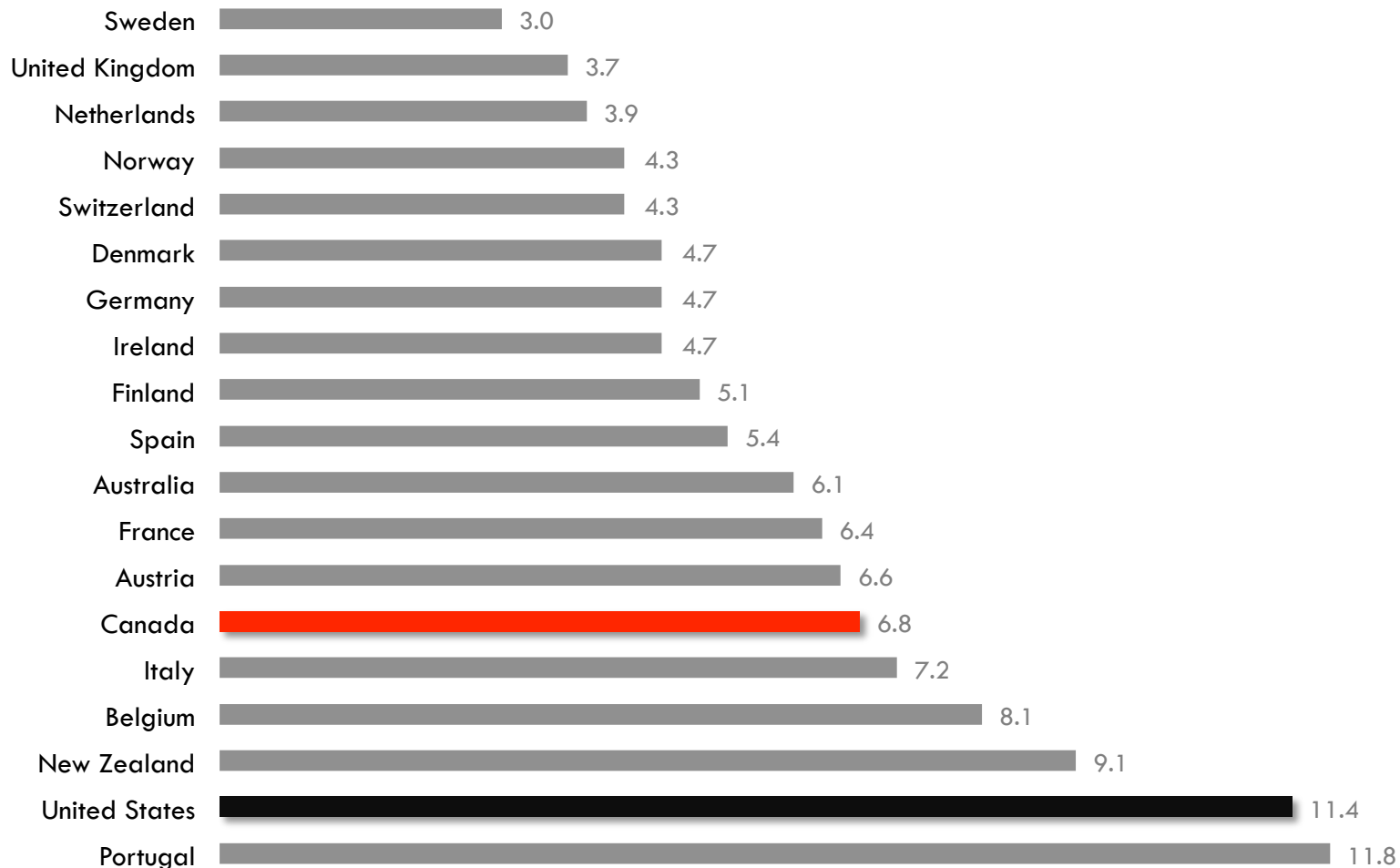
Road Traffic Death Rate: per 100,000 population

all road transport modes



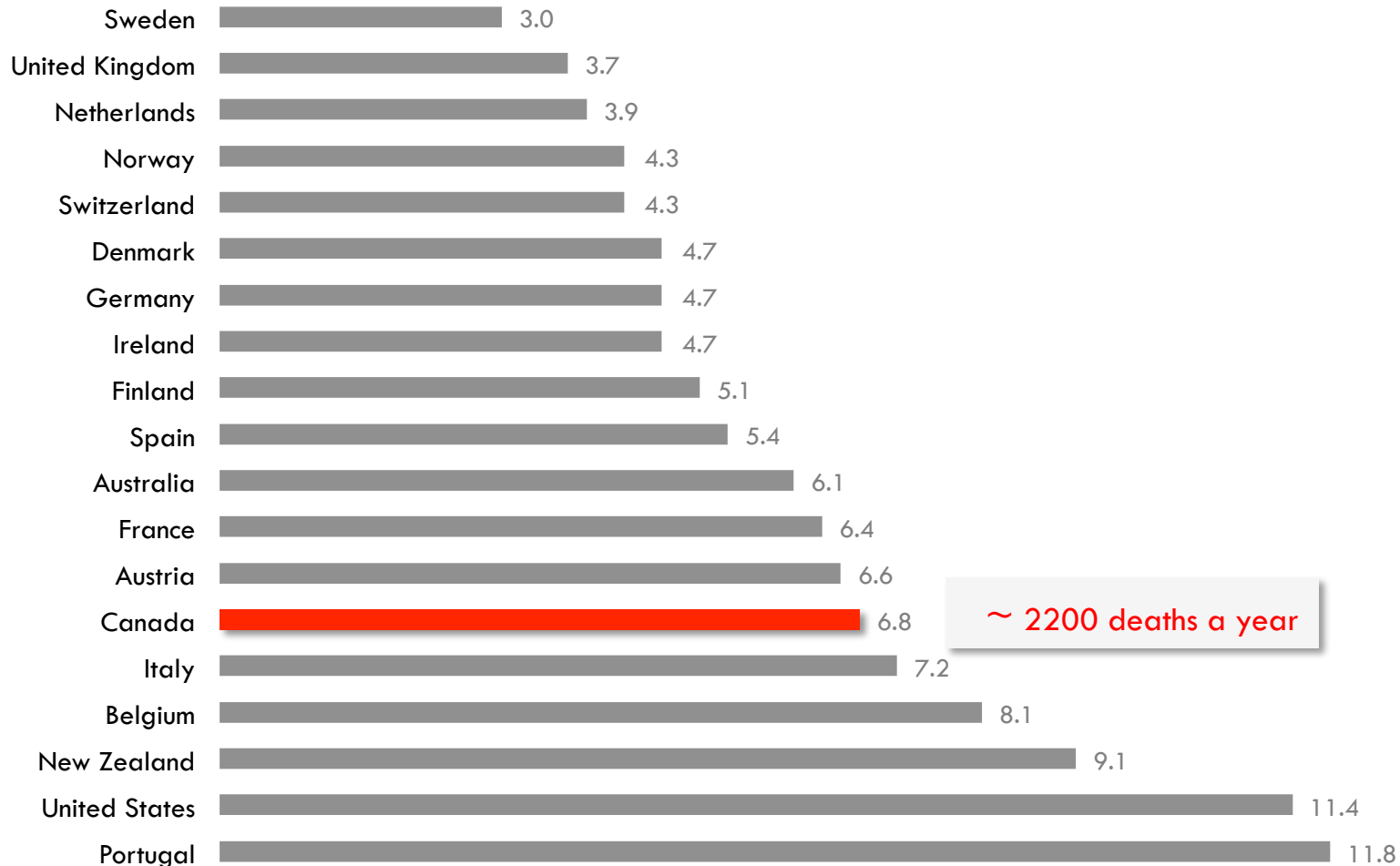
Road Traffic Death Rate: per 100,000 population

all road transport modes



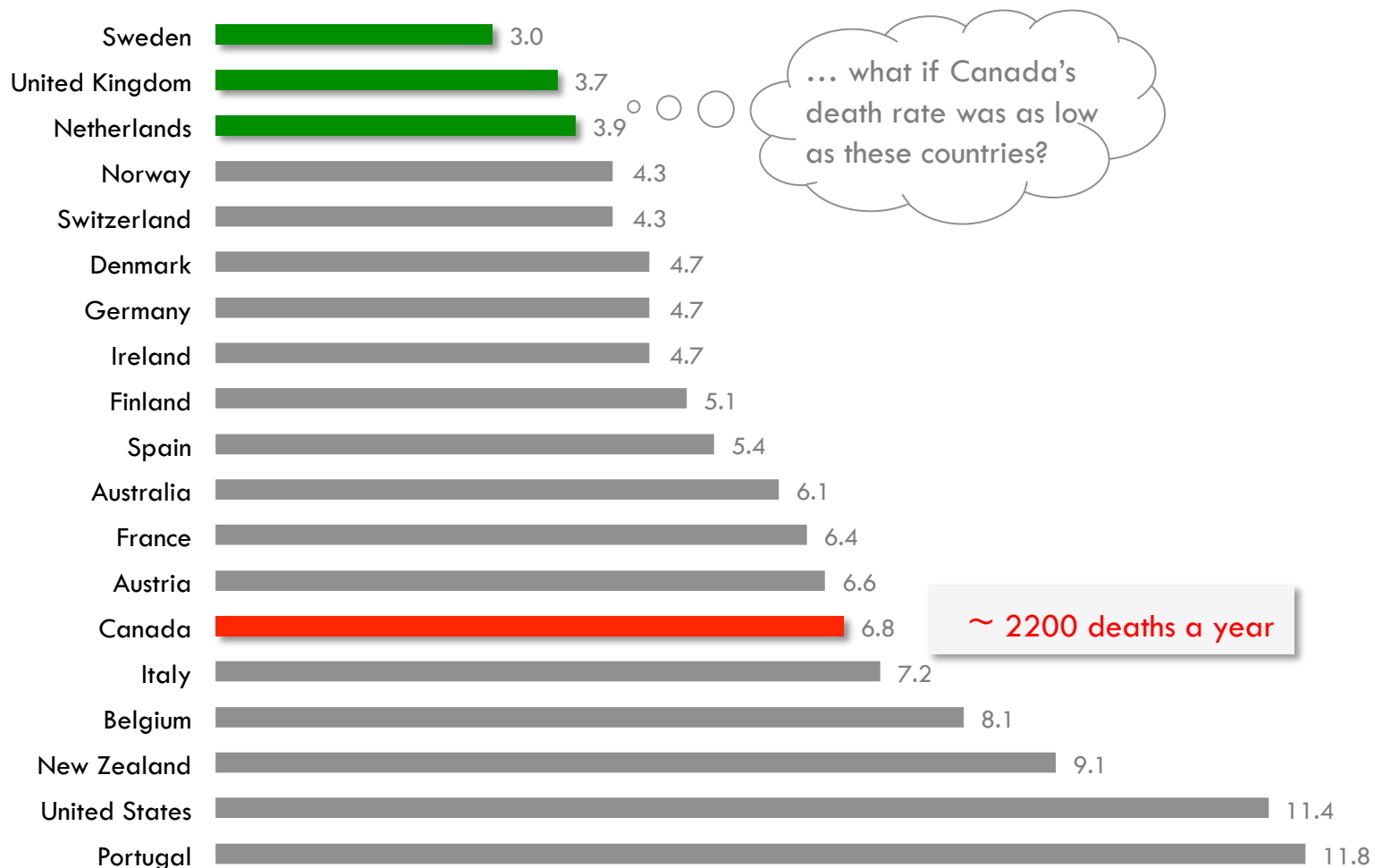
Road Traffic Death Rate: per 100,000 population

all road transport modes



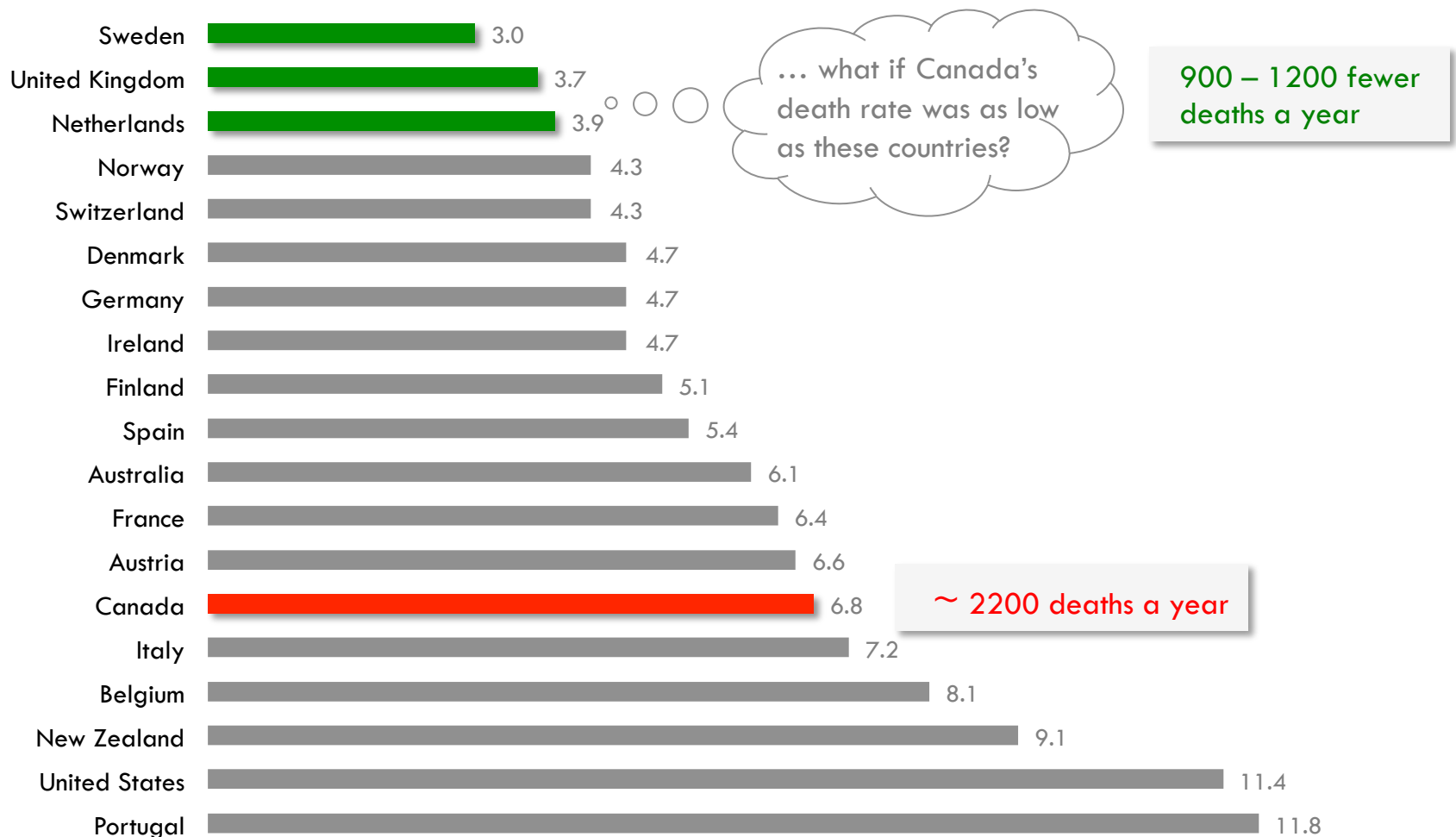
Road Traffic Death Rate: per 100,000 population

all road transport modes



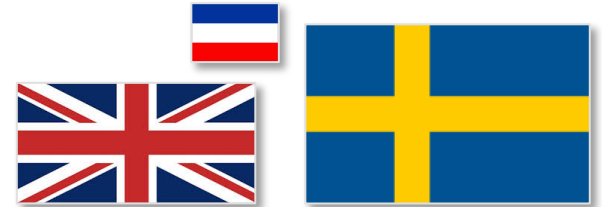
Road Traffic Death Rate: per 100,000 population

all road transport modes



BUT . . .

Bigger country, longer distances?



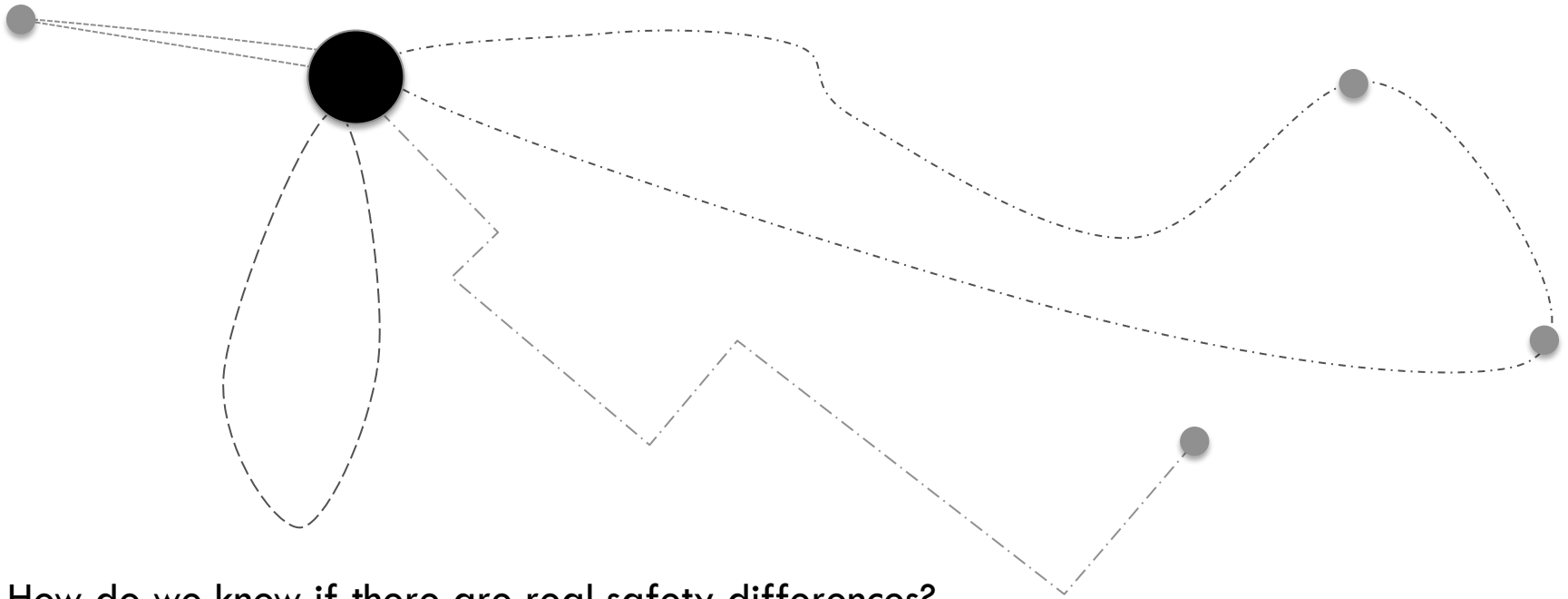
relative area of each country

BUT . . .

Different modes of travel?

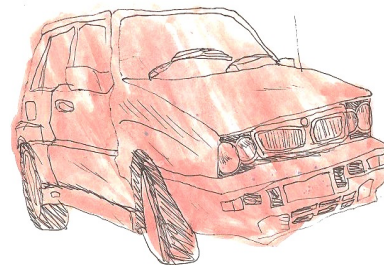
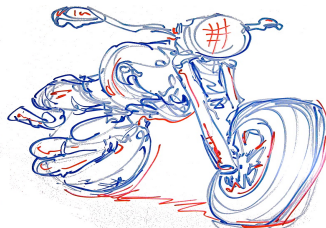
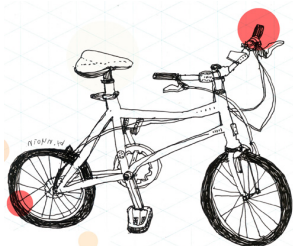


relative % of trips by private motor vehicle in largest city of each country



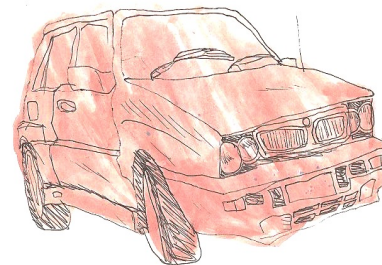
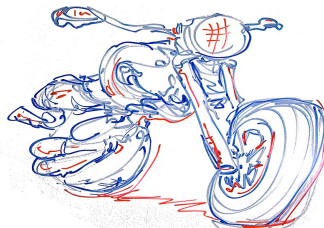
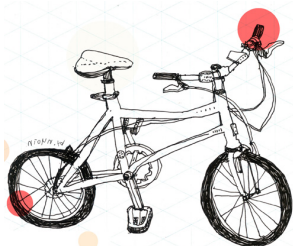
How do we know if there are real safety differences?

- use “exposure” as denominator: # of trips, distance travelled
- calculate risk for each mode of travel



Exposure & mode based death rates: data sources?

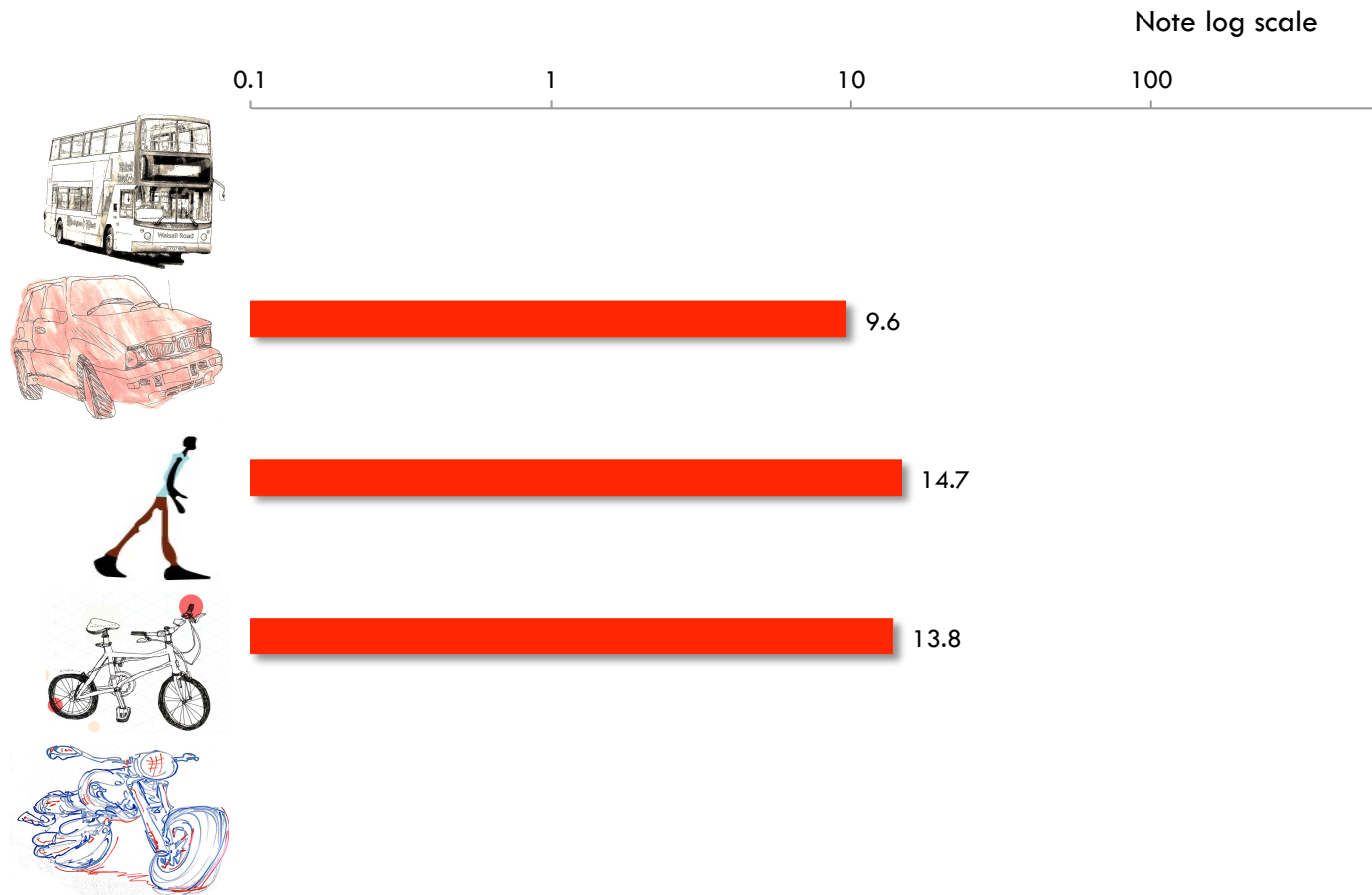
| | # of trips | distance travelled | issues |
|--|-----------------|--------------------|---|
| Census Long Form, National Household Survey | work trips only | ✗ | Underestimates walking Overestimates transit & driving |
| National trip diary survey | ✗ | ✗ | Not available in Canada |
| Regional trip diary surveys | ✓ | ✓ | Single region May combine some modes |



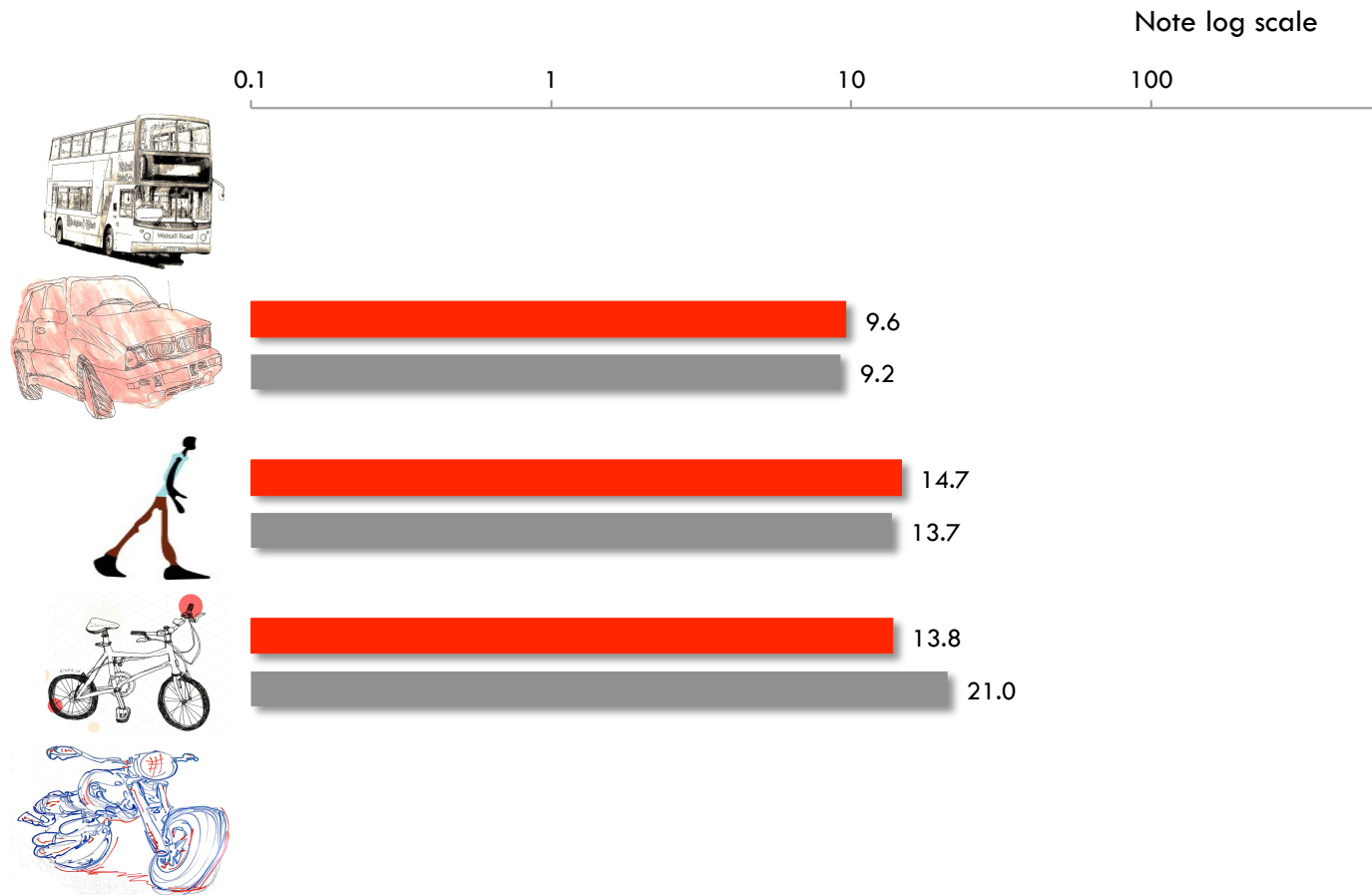
Exposure & mode based death rates: British Columbia

| | | Driving | Walking | Bicycling | Motorcycling | Transit | data sources |
|-------------------------------------|-------------------------------------|---------|---------|-----------|--------------|---------|---|
| <i>deaths</i> | <i>deaths</i> | ✓ | ✓ | ✓ | ✓ | ✗ | Motor Vehicle Branch 2005-7 average |
| <i>100 million person-trips</i> | <i>100 million km travelled</i> | ✓ | ✓ | ✓ | ✗ | ✓ | 2008 TransLink Trip Diary Survey, MetroVancouver, adjusted to province as a whole via 2006 Census data |

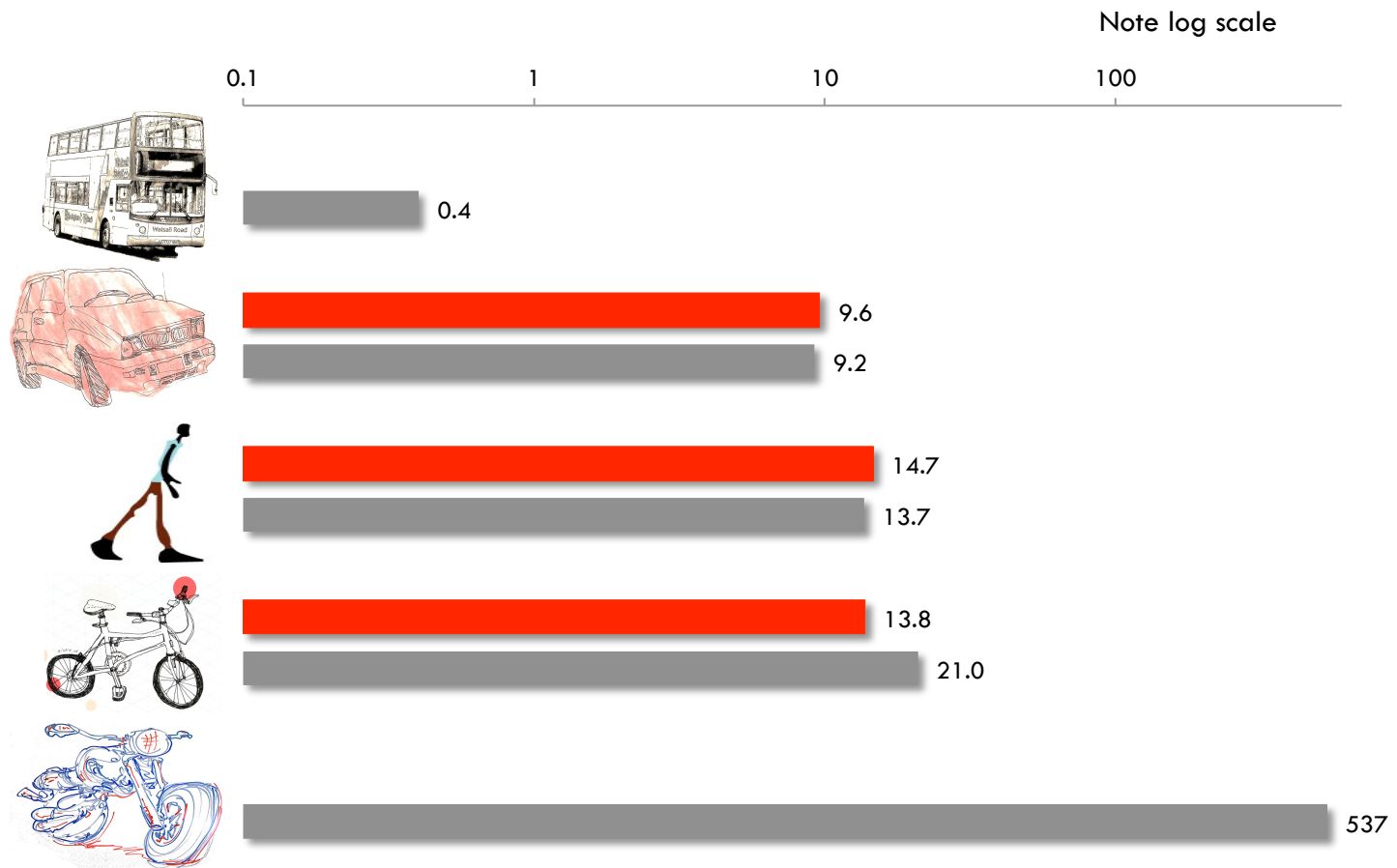
Deaths per 100 million trips: British Columbia



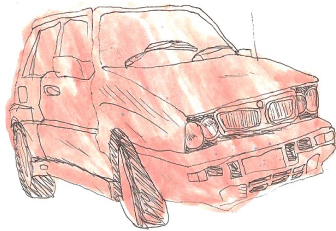
Deaths per 100 million trips: **British Columbia** vs. **US**



Deaths per 100 million trips: **British Columbia** vs. US



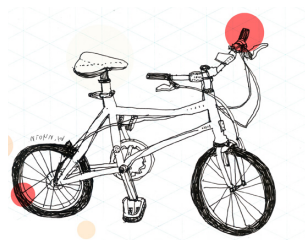
Deaths per 100 million km: British Columbia



1.0

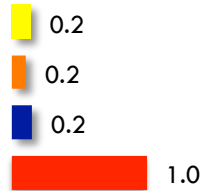
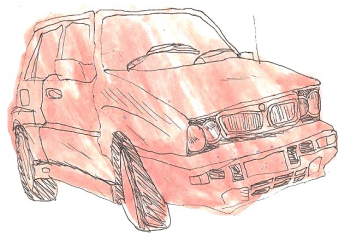


7.4

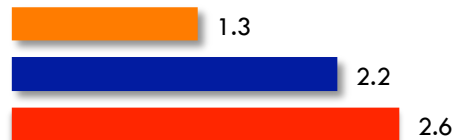
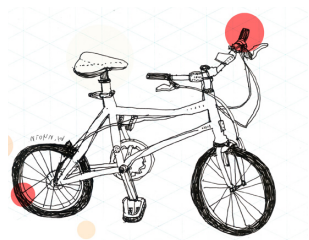
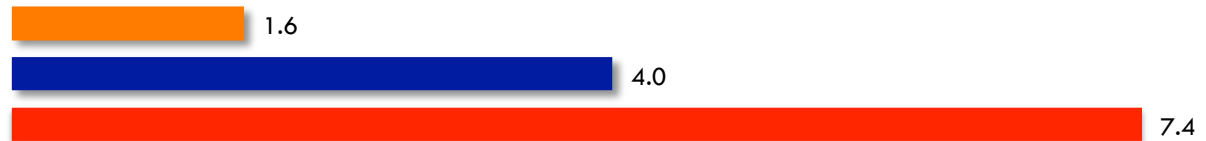


2.6

Deaths per 100 million km: BC vs. best international



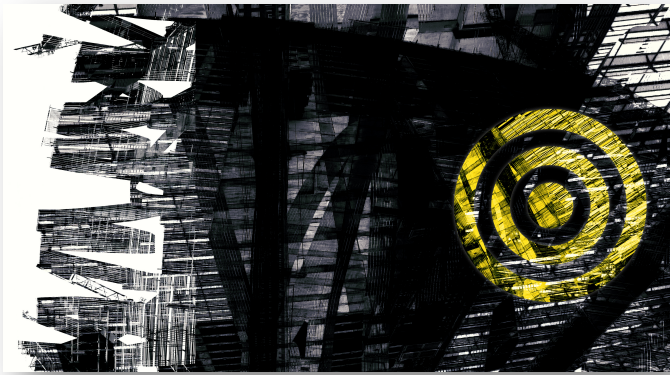
■ Sweden
■ Netherlands
■ UK
■ British Columbia



There are real differences in safety

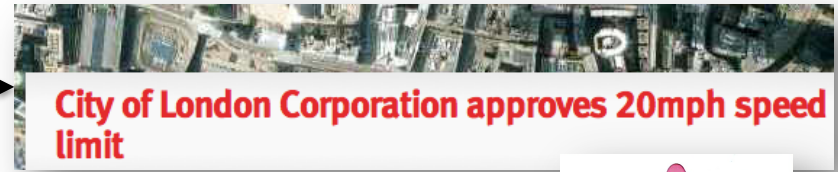
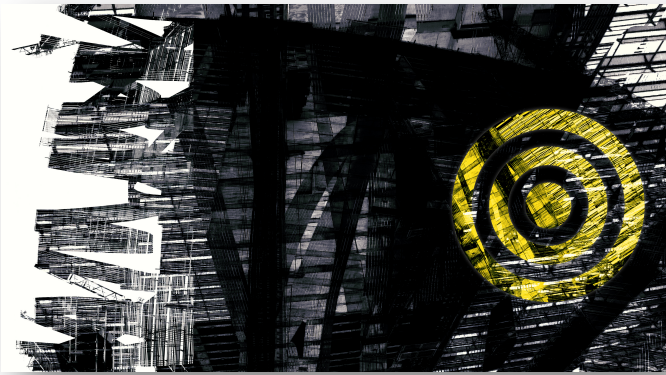
What are the strategies of the safer countries?





Netherlands & Sweden

National injury & death reduction targets



City of London Corporation approves 20mph speed limit

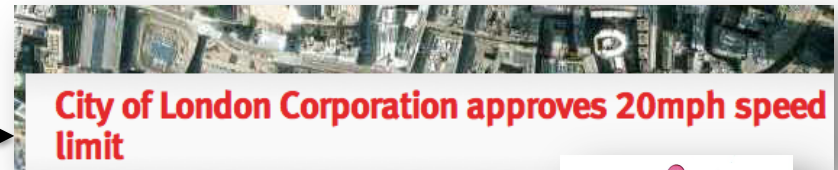
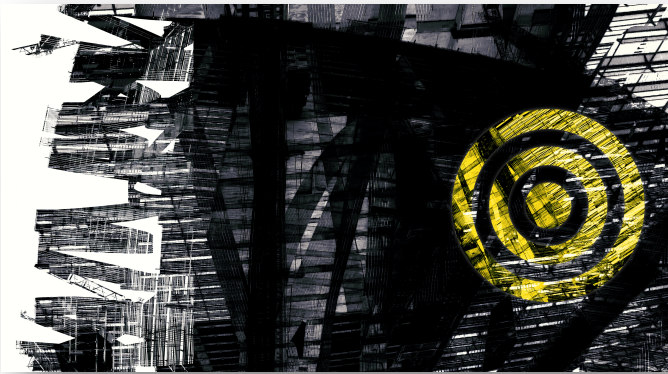
Netherlands

60% of freeways 130 km/h

60% of rural roads ≤ 60 km/h

70% of urban roads ≤ 30 km/h



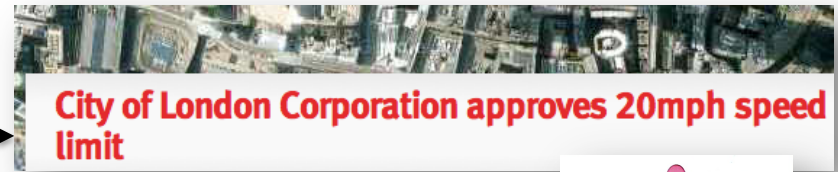
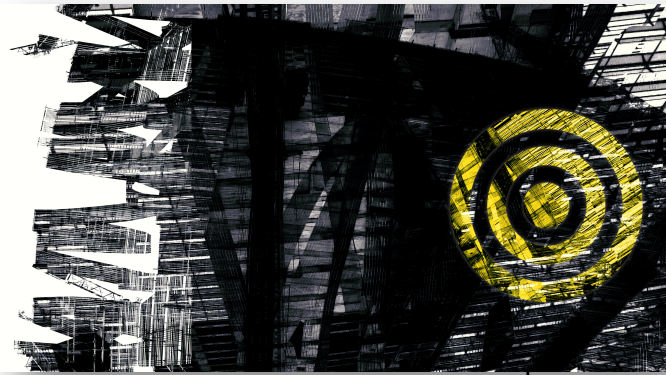


Netherlands

Blood alcohol limit of 0.05

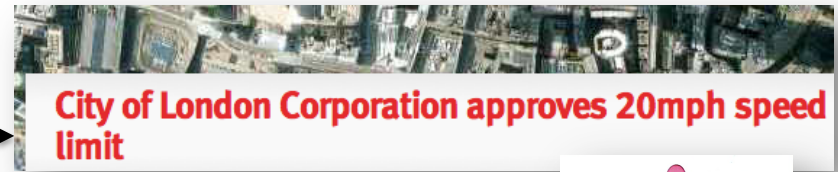
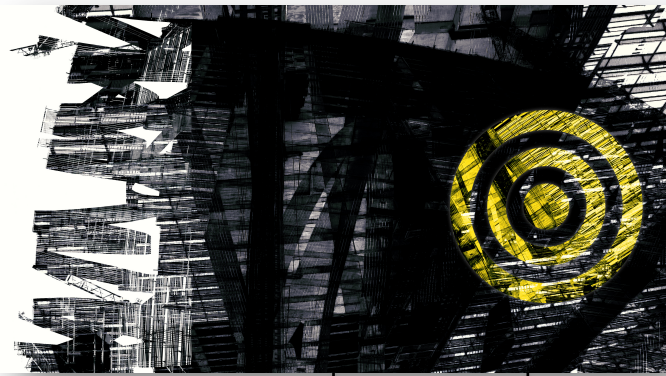
Sweden

Blood alcohol limit of 0.02



**Netherlands
& Sweden**
Separate fast & slow
(vulnerable) traffic
throughout transport
network





Europe (& UK)
No right (left) turn
on red



A Canadian target . . .
halve traffic fatalities in 5 years

flickr photo: @Doug88888

thank you

@kteschke

Road Traffic Death Rate: per 100,000 population

all road transport modes

